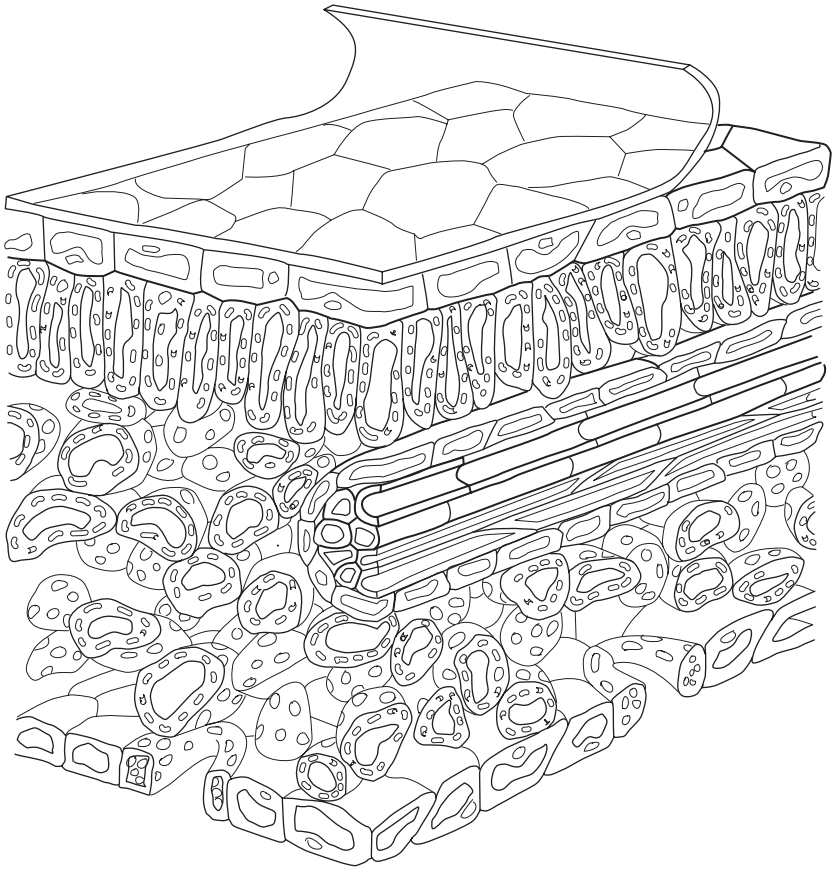
Name_____ Class_____ Date _____

Leaf Structure

Most leaves are made primarily of mesophyll. Palisade mesophyll absorbs light. Spongy mesophyll cells are loosely packed and allow gases to pass in and out. Leaves also have vascular tissue, an epidermis, and a cuticle.

Color the leaf structures according to the prompts.

- *Color the* epidermis *blue.*
- *Color the* spongy mesophyll *green.*
- *Color the* palisade mesophyll *yellow.*
- *Color the* vascular tissue *orange.*
- *Color the* cuticle *purple.*



Answer the question. Circle the correct answer.

1. In which layer are stomata and guard cells located?

epidermis palisade mesophyll

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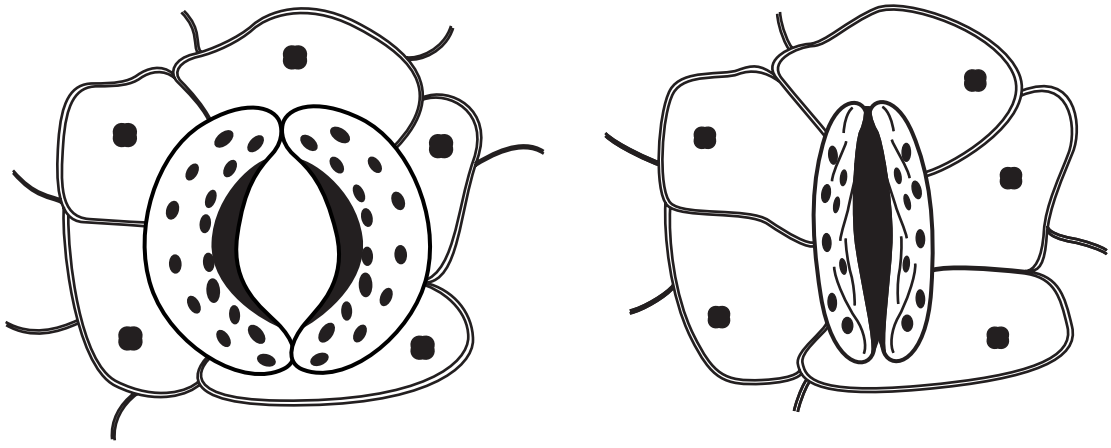
Stomata

The stomata of a plant open and close to control the flow of gases to and from the leaves. Specialized cells in the epidermis, called guard cells, control whether a stoma is open or closed.

Label each diagram as an open *or* closed *stoma. Draw a blue arrow showing the movement of carbon dioxide through the open stoma. Draw a yellow arrow showing the movement of oxygen through the open stoma.*



Answer the questions.

1. Describe how oxygen and carbon dioxide move through stomata.

_____

_____

2. At what time of day are stomata generally open? Circle the correct answer.

day night

3. What causes stomata to open and close?

_____

4. Why are stomata important to a plant?

_____

_____